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IS 632 (1978): Gamma-BHC (Lindane) Emulsifiable Concentrates [FAD 1: Pesticides and Pesticides Residue Analysis]

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Indian Standard

SPECIFICATION FOR GAMMA-BHC (LINDANE)
EMULSIFIABLE CONCENTRATES

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Indian Standard

SPECIFICATION FOR GAMMA-BHC (LINDANE) EMULSIFIABLE CONCENTRATES

(Fourth Revision)

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AMENDMENT NO. 1 SEPTEMBER 1988
TO
IS : 632-1978 SPECIFICATION FOR GAMMA-BHC
(LINDANE) EMULSIFIABLE CONCENTRATES

(*Fourth Revision*)

(*Page 4, clause 2.2.5*) — Add the following note at the end of the clause :

'NOTE — The material need not be subjected to heat treatment if it has crossed half of its shelf life as ascertained from the date of manufacture and date of expiry declared on the container.'

(AFCDC 6)

AMENDMENT NO. 2 MAY 1994
TO
IS 632 : 1978 SPECIFICATION FOR GAMMA-BHC
(LINDANE) EMULSIFIABLE CONCENTRATES
(*Fourth Revision*)

(Page 4, clause 2.2.5) — Delete.

(Page 6, clause 4.1) — Substitute the following for the existing:

'When freshly manufactured material in bulk quantity is offered for inspection, representative samples of the material shall be drawn and tested as prescribed in IS 10627 : 1983 within 90 days of its manufacture. When the material is offered for inspection after 90 days of its manufacture, sampling shall be done as prescribed in IS 10627 : 1983. However, the criteria for conformity of the material when tested, shall be the limits of tolerances, as applicable over the declared nominal value and given under clause 2.3.1 of the standard.'

(FAD 1)

Indian Standard

SPECIFICATION FOR GAMMA-BHC (LINDANE) EMULSIFIABLE CONCENTRATES

(Fourth Revision)

0. F O R E W O R D

0.1 This Indian Standard (Fourth Revision) was adopted by the Indian Standards Institution on 31 January 1978, after the draft finalized by the Pest Control Sectional Committee had been approved by the Agricultural and Food Products Division Council and the Chemical Division Council.

0.2 Gamma-BHC (Lindane) emulsifiable concentrate are widely used in the control of pests of agricultural crops.

0.3 Gamma-BHC emulsifiable concentrate is generally manufactured to contain 20 percent (*m/m*) of gamma-isomer.

0.4 This standard was first issued in 1956 as BHC (HCH) emulsifiable concentrates. It was revised in 1958 to incorporate changes regarding the determination of gamma-BHC content in the formulation in order to specify either the chromatographic or polarographic method. The second revision was issued in 1966 and the third revision in 1972. As now the Central Insecticides Board (CIB) has approved this product to be formulated exclusively from Gamma-BHC (Lindane), it is being aligned with these requirements in the present version.

0.5 In the preparation of this standard, due consideration has been given to the provisions of the Insecticides Act, 1968 and the Rules framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for Gamma-BHC (Lindane) emulsifiable concentrates.

2. REQUIREMENTS

2.1 Constituents — The material shall consist of Gamma-BHC (Lindane) dissolved in suitable solvent(s), with emulsifying agent(s) and with and without stabilizer(s) and coupler(s).

2.1.1 Gamma-BHC (Lindane), employed in the manufacture of this material shall conform to IS:882-1956*.

2.2 Physical — The material shall comply with the physical requirements given in **2.2.1** to **2.2.5**.

2.2.1 Description — The material shall be stable liquid free from extraneous impurities and sediment. Suspended material shall be negligible. It shall be free from odour of BHC.

2.2.2 Cold Test — No turbidity or separation of solid or oily material shall occur when the concentrate is subjected to the cold test at 10°C as described in 13.1 of IS:6940-1973† or any other lower temperature as agreed to between the purchaser and the supplier.

2.2.3 Flash Point (Abel) — When determined by the method described in IS:1448 [P:20]-1960‡, flash point of the material shall be not below 24.5°C.

2.2.4 Emulsion Stability — Any separation, including creaming at the top and sedimentation at the bottom, of 100 ml of emulsion prepared in standard hard water with 5 ml of concentrate for public health use and with 2 ml of concentrate for agricultural use, shall not exceed 2 ml when tested by one of the methods prescribed in 13.3 of IS:6940-1973†.

2.2.5 Heat Stability — After treating in accordance with the procedure in 13.4 of IS:6940-1973†, the material shall comply with the requirements of **2.2.1** to **2.2.4** and **2.3.1** of this specification.

2.3 Chemical — The material shall comply with the chemical requirements given in **2.3.1** and **2.3.2**.

2.3.1 Gamma-Isomer Content — When determined by the method prescribed in Appendix A of IS:561-1978§ the observed Gamma-Isomer content,

*Specification for Gamma-BHC (Lindane).

†Methods of tests for pesticides and their formulations.

‡Methods of tests for petroleum and its products, P:20 Flash point by Abel apparatus.

§Specification for BHC (HCH) dusting powders (fourth revision).

percent (m/m) of any of the samples shall not differ from the declared nominal value on the containers by more than the tolerance limits indicated below:

| <i>Nominal Value</i> | <i>Tolerance Limit, percent</i> |
|----------------------|---------------------------------|
| Up to 9 | +10 -5 |
| 10 and below 50 | ± 5 |
| 50 and above | +5 -3 |

$\left. \begin{array}{c} +10 \\ -5 \\ \pm 5 \\ +5 \\ -3 \end{array} \right\} \text{of the nominal value}$

2.3.1.1 The actual value of gamma-isomer content shall be calculated to the second decimal place and then rounded off to the first decimal place before applying the tolerances as stipulated in 2.3.1.

2.3.1.2 The average content of all samples taken shall not be lower than the nominal content.

2.3.2 Acidity or Alkalinity — When tested by the methods prescribed in 13.5 of IS:6940-1973*, the acidity (as H_2SO_4) shall not be more than 0.2 percent by mass or alkalinity (as $NaOH$) shall not be more than 0.05 percent by mass.

3. PACKING AND MARKING

3.1 Packing — The material shall be packed according to the requirements given in IS:8190 (Part II)-1976†.

3.2 Marking — The containers shall bear legibly and indelibly the following information and any other information as is necessary under the Insecticides Act and Rules:

- a) Name of the material,
- b) Name of the manufacturer,
- c) Date of manufacture,
- d) Batch number,
- e) Net mass of contents,
- f) Nominal Gamma-Isomer content percent (m/m), and
- g) The cautionary notice worded as in Insecticides Act and Rules.

*Methods of tests for pesticides and their formulations.

†Requirements for packing of pesticides: Part II Liquid pesticides.

3.2.1 The product may also be marked with Standard Mark.

3.2.2 The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

4. SAMPLING

4.1 Representative samples of the material shall be drawn as prescribed in 'Indian Standard methods for sampling of pesticides and their formulations' (*under preparation*).

NOTE — Till such time this standard is published, the sample be drawn as agreed to between the parties concerned.

5. TESTS

5.1 Tests shall be carried out by the appropriate methods referred to in 2.2.2 to 2.2.5, 2.3.1 and 2.3.2.

5.1.1 For estimating of Gamma-Isomer by polarographic method, proceed direct with the sample without any extraction in soxhlet extraction.

5.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (*see IS:1070-1977**) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

*Specification for water, for general laboratory use (*second revision*).

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